MISCELLANEOUS NOTES ON AUSTRALIAN DIPTERA. IX.

SUPERFAMILY ASILOIDEA.

By G. H. Hardy.

[Read 22nd July, 1942.]

The superfamily Asiloidea may be distinguished by the fact that the claspers on the male are either hinged to their support so as to swing in the vertical plane, or fused to their support with the apex pointing upwards. In Tabanoidea, and Nematocera, which also have the primitive type of claspers, these are hinged to swing horizontally, or within 45 degrees of that plane. The terminalia may further be used to separate families within the Asiloidea as follows:

Key to Families of the Asiloidea.

1. Supports of the claspers fused together along the median line, shielding the aedeagus from below, the claspers swinging at the apex of this combined unit. Ventral lamella absent but the dorsal one is divided and flanking the anal papilla thus: (O), the "O" representing the papilla and the parentheses forming the divided lamella, viewed from the rear. On the female, acanthophorites with their spines (rarely absent) fused to the apical tergite. The latter, on the male, is indented with the proctiger lying just below. Aedeagus without an armature and the median plate is often present ..... BOMBYLIIDAE

   Supports of the claspers normal and more laterally placed. Ventral lamella usually present and the upper is usually divided. The lamellae take the following positions: ♂ or ♀ 2

2. Vein at apex of second basal cell absent so that the cell is confluent with the median. Combined with this, it is necessary to note that no more than three branches occur in the radial field and two in the median field. Acanthophorites absent or at most vestigial, and in cases that do not conform in these characters, the cerci are present on female ..... DOLICHOPODIDAE

   Vein at apex of second basal cell present, separating it from the median cell. If not, then more branches occur in the radial and/or median fields, and failing this the acanthophorites are distinct on the female. No cerci detected 3

3. Venation usually greatly reduced in the cubital and anal fields, and the female is never with acanthophorites. The radial field normally has three branches, or if four are present, the cubital vein is strongly recurrent, which is a character typical of the family ..... EMPIDIDAE

   Venation normal in anal and cubital fields, or, if not, the radial field has four branches and acanthophorites are present on the female in cases that do not conform 4

4. Acanthophorites fused together with a ridge along the median line. Venation rather complex 5

   Acanthophorites, when developed, always separated and the ridge usually absent 6

5. Antennae with four segments, the second small. Ocelli absent ..... MYDAIDAE

   Antennae with three segments. Ocelli present ..... APIOCERIDAE

6. Cubital vein strongly bowed; four branches in the radial field and two in the median. Acanthophorites absent ..... SCENOPINIDAE

   Cubital vein straight or practically so 7

7. Summit of head excavated between eyes and the moustache present, rarely otherwise. Acanthophorites often present, frequently vestigial and sometimes absent. Terminalia very variable in form and supplementary spines sometimes present ..... ASILIDAE

   Summit of head not, or scarcely, excavated between eyes and the moustache absent. Unless *Clesthenia* belongs here, the terminalia of female are always of the one form with acanthophorites present as well as supplementary spines ..... THEREVIDAE

Family ASILIDAE.

Key to Tribes and some Groups of Dasypogoninae: Females.

1. Ninth tergite not modified and without signs of acanthophorites. Supplementary spines present ..... PHELLINI

   Ninth tergite modified and the acanthophorites represented at least by vestiges 2

2. Acanthophorites complete 3
Acanthophorites vestigial, being entirely without spines ..... CHRYSOPOGONINI
3. Median plate primitive in structure, though partly broken down to membrane; it is divided transversely and when at rest the two halves fold one upon the other, and open (as a book opens) when the acanthophorites are exserted ..... BRACHYRRHOPALINI
Median plate not so folded, and if divided transversely then also it is divided longitudinally, making four parts; usually it is in two longitudinally divided parts or absent ..... SAROPOGONINI 4
4. Dorsal ridge between acanthophorites present. Median plate in four parts 5
Dorsal ridge absent; median plate in two parts or absent ..... *other groups*
5. Genital groove without chitin; ventral lamella membraneous ..... *Bathypogon*-group
Genital groove with chitin; ventral lamella chitinous ..... *Stenopogon*-group

STENOPOGON DURVILLEI Macquart.

Proctacanthus durvillei Macquart, *Dipt. exot.*, i (2), 1838, 121; Walker, *List Dipt. Brit. Mus.*, vii, suppl. 3, 1855, 654; Ricardo, *Ann. Mag. Nat. Hist.*, (8) xi, 1913, 418; White, *Proc. Roy. Soc. Tasm.*, 1915, 172. *Stenopogon fraternum* Bigot, *Ann. Soc. ent. Fr.*, (5) viii, 1878, 421; Hardy, *Ann. Mag. Nat. Hist.*, (10) xiv, 1934, 14 (which see for further synonymy and references).

Synonymy.—Although Ricardo re-described the type which is in very bad preservation, recorded from Jervis Bay, New South Wales, the generic position was left unknown. Its wingless state evidently led Macquart to place it in his genus *Proctacanthus* as it had a very narrow frons and spines on the ovipositor. These two characters, however, suggest *Stenopogon*, another species of which was placed in *Proctacanthus* by Thomson, notwithstanding the disagreement in venation. The recorded characters of the type conform to those of *Stenopogon fraternum* Bigot which name thus becomes a synonym.

STENOPOGON SPILOGASTER Thomson.

Proctacanthus spilogaster Thomson, *Eugenies Resa*, Dipt., 1869, 469; Ricardo, *Ann. Mag. Nat. Hist.*, (8) xi, 1913, 418.

All Thomson's species of Diptera were captured in Sydney, between 22nd and 31st October, 1852. *P. spilogaster*, a female, which was compared with *P. durvillei*, has the wing cells open, about 10 spines on the ovipositor, attenuated conical abdomen and no mention of the tibial spur, which is missing in the present genus. These characters make the generic position assured and it seems that *S. flavipennis* White is the known species best fitting the description, but may not be the same.

Key to Genera of the Neosaropogon-*group.*

1. With the tibial spur present 2
Without the tibial spur ..... *Neodioctria* Ricardo
2. Male with only seven abdominal segments visible; abdomen club-formed ..... *Austrosaropogon* Hardy
Male with eight abdominal segments present 3
3. Antennae short, the two apical segments combined being only as long as the basal ones ..... Gen. .....
Antennae normal, the apical segment being at least as long as the two basal ones combined 4
4. Abdomen strongly club-formed, the face exceedingly swollen and without definite tubercle; moustache confined to oral margin ..... *Neocyrtopogon* Ricardo
Face with the normal tubercle, or if swollen the abdomen not club-formed ..... *Neosaropogon* Ricardo

NEOSAROPOGON DISSIMILIS Hardy.

Dasypogon nitidus Macquart, *Dipt. exot.*, suppl. 1, 1846, 61; preoccupied by Wiedemann 1830. *Brachyrrhopala nitidus* var. *dissimilis* Hardy, *Proc. Roy. Soc. Tasm.*, 1916, 271.

Macquart's name is homonymous with that of Wiedemann in *Auss. zweifl. Ins.*, ii, 1830, p. 643. The so-called variety *dissimilis* is to be regarded as an abnormality as more material from the type locality (Mt. Wellington) shows the species there to be quite normal.

Genus RHACHIOPOGON Ricardo.

Under this genus stand some specific names unrecognized, and three of them are homonyms.

Dasypogon luctuosus Macquart, *Dipt. exot.*, i (2), 1838, p. 39, is preoccupied by that of Meigen, *Syst. Besch. zweifl. Ins.*, i, 1828, p. 402.

Dasypogon nigripennis Macquart, *Dipt. exot.*, suppl. 3, 1848, p. 20, is preoccupied by that of Meigen, *Syst. Besch. zweifl. Ins.*, 1820, p. 278.

Dasypogon albonotatus Macquart, *Dipt. exot.*, suppl. 2, 1847, p. 33, is preoccupied by that of Wiedemann, *Auss. zweifl. Ins.*, i, 1828, p. 402, and which was transferred to the genus from *Dioctria*.

Rhachiopogon rubescens White.

Saropogon rubescens White, *Proc. Roy. Soc. Tasm.*, 1913, 271.

In Kertesz' *Catalogus Dipterorum* is the reference: "*rubescens* Bell., *Saggio di Ditterol. Messio.* ii. 1861, 71 (*Dasypogon–Saropogon*)". This work has not been seen by me and if *Saropogon* reported there is the name that covers *rubescens* Bell., then White's name becomes a homonym.

Genus Xenomyza Wiedemann.

The species *Damalis fuscipennis* Macquart, *Dipt. exot.*, suppl. 1, 1844, p. 95, must be erroneously placed if it be Australian, and the use of the generic name seems invalid, for the following reason: *Damalis* Fabricius, *Syst. Antl.*, 1805, p. 147, contained four species, the types of which Wiedemann examined and recorded the family status:

1. *curvipes* from South America .. .. Empididae
2. *planiceps* „ India .. .. Asilidae
3. *quadricincta* „ South America .. .. Empididae
4. *myops* „ Sumatra .. .. Asilidae

Xenomyza Wiedemann, *Zool. Mag.*, i, 1817, p. 60, was based upon the two Asilids, leaving the Empids tacitly in the genus *Damalis*. Coquillett in 1910 proposed *D. planiceps* as the type.

Damalis Wiedemann, *Auss. zweifl. Ins.*, i, 1828, p. 415, quite ignoring *Xenomyza*, brings back the two Asilids, and places the two Empids under *Hybos*.

Damalis Westwood, *Ann. Soc. ent. Fr.*, 1835, p. 685, makes *D. curvipes* the genotype quite in alignment with Wiedemann's first move, and proposes *Chalcidomorpha* for species that correspond to *Xenomyza*, which name was apparently overlooked.

There are, therefore, (*a*) Wiedemann 1817, making *Damalis* an Empid; (*b*) Wiedemann 1828, making *Damalis* an Asilid; and (*c*) Westwood 1835, making *Damalis* a valid generic name for Empididae by proposing a genotype. In addition, Coquillett, *Proc. U.S. Nat. Mus.*, xxxvii, 1910, p. 530, pointed out that *Xenomyza* should be substituted for *Damalis* of the American authors, but this amendment has not been adopted nor yet, apparently, has *Damalis* Fab. been incorporated within the Empididae by any author.

Genus Leptogaster Meigen.

In the key given below, all the species known to me as occurring between southern Queensland and Tasmania inclusive, and the single species from Western Australia, are isolated on characters worked out by aid of the terminalia of the male. Owing to difficulties in handling the types in Europe, the identity of these remains somewhat obscure and hence three specific names applied in Australia may not be correct; they are marked with a query in the key. In other respects the synonymy and identity of species are now assured for the whole genus.

Key to Species of Australian Leptogaster.

1. Male terminalia with simple upper forceps ending in a point (*pedanius*-group) 3
   Male terminalia with a broad short process containing long strong bristles (Hardy, *Ann. Mag. Nat. Hist.*, (10) xvi, 1935, p. 164, fig. 17). The upper forceps extend beyond the process, and beyond this again, the tips of the claspers are exposed. Dorsally the thorax is brown with a pair of very thin light stripes. The posterior femora invariably have black apical bands. (Western Australia, Queensland.) ..... *occidentalis* White
   Male terminalia with a ventral process on the upper forceps. Yellow or yellow-brown species 2
2. Upper forceps with the ventral process broad (Hardy, 1935, fig. 18). Thorax with three black stripes. (New South Wales.) ..... *tillyardi* Hardy

Upper forceps with the ventral process narrow. Thorax dorsally highly polished black bordered by a pulverulent overlay. (Queensland.) ..... *sp.**

3. Metatarsus of the hind legs very short (Hardy, 1935, fig. 19). Thorax with a pair of very short stripes on hump, but this character may not be consistent. (Queensland.) ..... *brevitarsis* Hardy

Metatarsus normal, long. Thorax otherwise marked 4

4. The hump unusually prominent on thorax, which has three black highly polished stripes. (Tasmania.) ..... *whitei* Hardy

Hump on thorax normally developed, and if three black stripes occur, these are dull ... 5

5. Post-ocular bristles unusually long and black, strongly contrasting with those of other species. Three broad brown stripes very consistently present on thorax. (New South Wales and Queensland.) ..... ? *bancrofti* Ricardo

Post-ocular bristles normal to weak, frequently with white ones mixed with black 6

6. Post-ocular bristles generally black. Thorax brown with three stripes always discernible, the central one divided longitudinally, but sometimes obscurely so. (Tasmania and probably Victoria.) ..... *antipoda* Bigot

Post-ocular bristles invariably white in the main. Central stripe of thorax, if present, not divided 7

7. Tasmanian species. Thorax normally brown but may be abraded and show stripes ..... *aestiva* White

Mainland species 8

8. Larger average size with relatively a wider face. (New South Wales and probably Victoria.) ..... ? *geniculatus* Macquart

Smaller average size with relatively a narrower face. (New South Wales and Queensland.) ..... ? *pedanius* Walker

Ommatius coeraebus Walker.

Walker, *List Dipt. Brit. Mus.*, ii, 1849, 473. *O. angustiventris* Macquart, *Dipt. exot.*, suppl. 4, 1850, 89.

Macquart's name is usually adopted, but dates of publication show that Walker's name has priority, and it should be used.

Neoaratus rufiventris Macquart.

Asilus rufiventris Macquart, *Dipt. exot.*, i, 1838, 144. *Erax plantaris* Thomson, *Eugenies Resa*, Dipt., 1869, 468.

New synonymy.—There can be little doubt that Thomson's name applies to the present species and falls to synonymy.

Neoaratus regius Jaennicke.

Asilus regius Jaennicke, *Abh. senckenb. naturf. Ges.*, vi, 1867, 364. *Asilus aureus* White, *Proc. Roy. Soc. Tasm.*, 1917, 90; preoccupied.

White's name has been standing as a probable synonym of *N. regius* Jaen., and further, it cannot be used as it is preoccupied by Olivier, *Encycl. Method.*, iv, 1789, p. 272, and again by Fabricius, *Ent. syst.*, iv, 1794, p. 368. The retention of Fabricius' name in *Laphria aurea* seems to be invalid though still standing in literature (see Engel in Lindner's *Die Fliegen der palaearktischen Region*, Vol. 24, Asilidae, 1923-30, p. 214).

Genus Trichoitamus White.

Trichoitamus White, *Proc. Roy. Soc. Tasm.*, 1917, 91. *Cerdistus* Hardy, *Ann. Mag. Nat. Hist.*, (10) xvi, 1935, 405 (which see for further references and synonymy).

Definition.—From *Asilus, sensu lato*, which includes *Cerdistus* Loew, this genus differs by having the prosternum separated from the pronotum, a broad area of membrane coming between; the ovipositor is strongly compressed, at least ventrally, with the normal compact proctiger consisting of the divided upper lamella and the ventral one, in cross section forming three sides of a triangle around the anal papilla. The eighth sternite on the female is slightly divided by an incision which does not form a line of articulation. A similar incision on *Neoaratus* marks a point of articulation, but here the

* It is possible that *L. australis* Ricardo may be this species or come near it. The ventral process is sometimes difficult to see. Ricardo refers to the thorax as having grey tomentum bordering the black stripe, which does not reach the posterior border, and the present species could be similarly described. My knowledge of the north Queensland *Leptogaster* spp. is not adequate enough for me to do more than make this suggestion.

ovipositor is depressed. *Neocerdistus* differs by having the proctiger reduced showing only two spine-like projections.

In his attempt to make three genera out of the present one, White depended upon characters that were not adequate enough, and also, he failed to find characters that would enable the genus to be isolated from *Cerdistus* and other European genera. Through the distinctive difference in the prothorax, it now seems that the genus differs entirely from the allied fauna throughout the world except in the Oriental and Australian regions.

Twenty species named in Australian collections need to be referred to this genus, hitherto standing as *Cerdistus*, and two further names need amendment, as follows:

Asilus armatus and *A. laticornis* Macquart 1844; *Erax varimystaceus* and *E. fuscipennis* Macquart 1847; *Asilus mistipes*, *A. fulvipubescens* and *A. vittipes* Macquart 1849; *Asilus margites*, *A. maricus* and *A. rudis* Walker 1849, 1851 and 1855 respectively; *Neoitamus gibbonsi* Ricardo 1913; *Neoitamus flavicinctus* and *N. maculatus* White 1913; *Rhabdotoitamus lautus* and *R. volaticus* White 1917; *Neoitamus setosus* and *N. maculatoides* Hardy 1920; *Cerdistus rusticanoides* Hardy 1926; *Cerdistus separatus* and *C. prostratus* Hardy 1935.

Trichoitamus neoclaripes Hardy.

Asilus cognatus Macquart, *Dipt. exot.*, suppl. 4, 1850, 94; preoccupied by Loew 1849. *Neoitamus neoclaripes* Hardy, Proc. Linn. Soc. N.S.W., xlvi, 1921, 295.

Macquart's name appeared on two prior occasions, first in Stephens' *Cat. Brit. Ins.*, 1829, p. 258 (*nomen nudum*) and then in Loew's *Europaischen Raubfliegen* (*Linn. Ent. Stett.*, iii), 1849, p. 143.

Trichoitamus luctificus Walker.

Asilus fraternus Macquart, *Dipt. exot.*, suppl. 1, 1844, 91; preoccupied by Wiedemann 1819. *Asilus luctificus* Walker, *Ins. Saund.*, Dipt. i, 1851, 144.

Wiedemann, *Zool. Mag.*, iii, 1819, p. 33, used the name given later by Macquart.

Family Mydaidae.

My paper on *Australian Mydaidae* in these Proceedings (1, 1925, pp. 139–144), brought a letter from the late Major E. E. Austen, with corrections needed, and was used by Dr. I. M. Mackerras when describing further species in these Proceedings (liii, 1928, pp. 539–543). The following notes add further data and corrections.

Key to Genera of Australian Mydaidae.

1. With the apex of all radial veins meeting together before reaching the wing margin. With the first and second median veins reaching the wing margin separately 2

   With the apex of the fifth radial vein reaching the wing margin separately from the rest of the radial complex. With the first and second median veins united for their whole length, so that only one vein is apparent in this part of the median field. Genotype: *M. cardinalis* Gerst., designated by Hardy, 1925 ..... *Miltinus* Gerstaecker

2. Antennae with the third segment short, not much longer than the first and second combined. Genotype: *D. mitis* Gerst., designated by Hardy, 1925 ..... *Diochlistus* Gerstaecker

   Antennae with the third segment long, several times longer than the first and second combined 3

3. With fourth and fifth radial veins meeting some distance before they reach the rest of the radial complex. Mainly bright yellow in colour and with opaque yellow wings that are hyaline only along the apical margin. Genotype: *Mydas aureipennis* Westw. by present designation ..... *Triclonus* Gerstaecker

   With the fourth and fifth radial veins meeting the rest of the radial complex separately, or occasionally meeting at a point where they meet the rest of the complex. Black with much less yellow, and with transparent wings clouded brownish. Genotype: *Mydas clavata* Macq. (= *Cephalocera gracilis* Macq.) by present designation .... *Harmophana* Thomson

Genus Diochlistus Gerstaecker.

Gerstaecker, *Ent. Ztg., Stettin*, xxix, 1868, 73; Hardy, Proc. Linn. Soc. N.S.W., 1, 1925, 140. *Triclonus* Gerstaecker, *Ent. Ztg., Stettin*, xxix, 1868, 75. *Harmophana* Thomson, *Eugenies Resa*, Dipt., 1869, 462.

Three of the four proposed genera are regarded as being congeneric, but all have a certain obvious group value. One species, *D. aureipennis* Westwood, is not only the most primitive in colouration, but also has its "metapleura" of the same tuberculate form as that found on two genera of the Apioceridae. Other species have this area either flat or occasionally slightly raised above the normal. The following references disentangle the confusion in references standing as one species in my first paper; both belong to the *Harmophana*-group.

Diochlistus gracilis Macquart.

Cephalocera gracilis Macquart, *Dipt. exot.*, suppl. 2, 1847, 32; Pl. 1, f. 5; Walker, *List Dipt. Brit. Mus.*, vi, suppl. 2, 1854, 376. *Mydas bispinifer* Westwood, *Trans. ent. Soc. Lond.*, v, 1848, 88; Pl. 13, f. 2. Walker, *List Dipt. Brit. Mus.*, vi, suppl. 2, 1854, 370. *Triclonus bispinifer* Gerstaecker, *Ent. Ztg., Stettin*, xxix, 1868, 75; Williston, *Kans. Univ. Quart.*, i, 1893, 154; Pl. 10, f. 10. *Mydas clavata* Macquart, *Dipt. exot.*, suppl. 4, 1850, 59; Pl. 4, f. 5. *Harmophana clavata* Thomson, *Eugenies Resa*, Dipt., 1869, 463; Pl. 9, f. 5. *Mydas gracilis* Jaennicke, *Abh. senckenb. naturf. Ges.*, vi, 1867, 353; Pl. 43, f. 12; preoccupied by Macquart 1834. *Mydas macquarti* Schiner, *Reise Novara*, Dipt., 1868, 153. Hutton, *N.Z. Dipt.*, 1881, 31.

Macquart in *Suite a Buffon*, 1834, p. 274, previously used the name which was given by Jaennicke.

Diochlistus melleipennis Westwood.

Mydas melleipennis Westwood, *Trans. ent. Soc. Lond.*, v, 1848, 87; Pl. 13, f. 1; Walker, *List Dipt. Brit. Mus.*, vi, suppl. 2, 1854, 369. *Triclonus melleipennis* Gerstaecker, *Ent. Ztg., Stettin*, xxix, 1868, 75. *Dioclistus melleipennis* Mackerras, Proc. Linn. Soc. N.S.W., liii, 1928, 540. *Mydas effracta* Walker, *Trans. ent. Soc. Lond.*, iv, 1857, 126. *Triclonus effractus* Gerstaecker, *Ent. Ztg., Stettin*, xxix, 1868, 76. *Mydas claviger* Walker, *List Dipt. Brit. Mus.*, i, 1848, 229 (*clavigera*) and iv, 1849, 1153. *Miltinus claviger* Gerstaecker, *Ent. Ztg., Stettin*, xxix, 1868, 90. *Harmophana flavipes* Thomson, *Eugenies Resa*, Dipt., 1869, 463.

Walker corrected his name *clavigera* to *claviger*, which subsequent authors have used, except Mackerras, who reverted to the original spelling; in my original paper the name was placed under *Miltinus sordidus* Westw. following Gerstaecker, but according to Austen the type belongs here.

Family Scenopinidae.

Scenopinus perkinsi, n. sp.

♀. In life the eyes appear black, but close examination shows them to have a reddish tinge and there are no indications whatever of markings. Hair-pits occupy the whole of the frons, the eye-margins being separated only by a line, and there is also a similar median shining line very slightly raised and interrupted by a median depression in the form of a circular pit at two-thirds its length. Near the eye-margins, the frons is slightly sunken. The post-ocular border is linear, no flange being developed there.

The whole of the body is black, but brown occurs on the antennae, tibiae and tarsi, whilst faint indications of brown may also occur on the femora; in other respects the fly is quite typical of the genus. Length: 4 to 5 mm.

The species differs from *S. civiculus* Hardy, the only other known species in Australia, by its much smaller size, lack of the post-ocular flange and very much narrower frons. No males belonging to this genus have been discovered in any Australian collection.

Hab.—Queensland: A series of females was collected in Brisbane, mostly by Mr. F. A. Perkins, from the windows of the University's Entomological Laboratory. It seems to be mainly a spring and summer species, as the collection dates show it to occur during most of these months, over several successive years.

Family Bombyliidae.

Dr. F. H. Roberts entrusts to me the re-naming of species that are standing under homonyms in his papers, two of which names are of his own proposing. Correspondents

have expressed the view that some species named by early authors are not those given their names in Australian collections, and this criticism may apply more widely than at present suggested. I propose here, not to re-name the homonyms, but rather to give new names to species in collections that have formed the material studied by Roberts and that were given names of the earlier authors, and which names are homonyms. The types are thus all in Australian collections, and they may or may not be identical with the species to which Roberts allied them.

Genus Ligyra Newman.

Newman, *Entomologist*, i, 1840, 220. *Hyperalonia* Rondani, *Arch. per la Zool.*, 1863, 58; *nec Lygira* Bigot 1881.

The genotype of *Ligyra* Newm., by original designation, is *Anthrax bombyliformis* Macleay 1827, since found to be conspecific with *Anthrax sylvanus* Fab. 1776, which name was also included in the genus. Bigot (*Ann. Soc. ent. Fr.*, 1881, p. 22) placed a species of *Comptosia* under *Lygira*, which is a mis-spelling of the same generic name. Becker placed *Ligyra* as part of *Comptosia* without indicating if he had seen identified specimens, and later Bezzi adopted the synonymy without discussing the position.

As Macleay's species was evidently not a *Comptosia*, I removed it to *Hyperalonia* in 1921, leaving *sylvanus* still under *Comptosia*, and did not know at the time the species to which Newman had attributed the two specific names. By the time Roberts' revision was in manuscript, it had become evident that the only species which Fabricius could have described was the same as Macleay's, so Roberts (1928) published a note covering this conception at the end of his description.

Edwards (*Encycl. Ent. Dipt.*, vii, 1934, 82), states that the name *Ligyra* definitely was misapplied by Becker, but does not refer to any specimens labelled by Newman. It must be assumed that Newman erected the genus on literature references only, and it is unfortunate that this little-known generic name has to supersede the well-known and much used name *Hyperalonia*; nine species are concerned with this change in Australia, and one specific name needs adjustment.

Ligyra sylvanus Fabricius.

Bibio sylvanus Fabricius, *Ent. Syst.*, 1775, 758; *Spec. Ins.*, ii, 1781, 415; *Mant. Ins.*, ii, 1781, 329. *Musca sylvanus* Gmelin, *Syst. Nat.*, v, 1792, 2832. *Anthrax sylvanus* Fab., *Ent. Syst.*, iv, 1794, 261; *Syst. Antl.*, 1805, 125; Wiedemann, *Dipt. exot.*, 1821, 151; *Auss. zweifl. Ins.*, i, 1838, 321; Walker, *List Dipt. Brit. Mus.*, ii, 1849, 241; *Ins. Saund.*, Dipt., i, 1852, 166. *Ligyra sylvanus* Newman, *Entomologist*, i, 1840, 220; Edwards, *Encycl. Ent. Dipt.*, vii, 1934, 82. *Anthrax bombyliformis* Macleay, in King's *Narr. Surv. Intertrop. and W. Coasts of Australia*, 1827, 468. *Ligyra bombyliformis* Newman, *Entomologist*, i, 1840, 220. *Hyperalonia bombyliformis* Hardy, *Proc. Roy. Soc. Tasm.*, 1921, 46; Roberts, Proc. Linn. Soc. N.S.W., liii, 1928, 100 (which see for further synonymy and references).

As pointed out by Edwards, the change in name of this well-known species is inevitable.

Villa subobscura, *new name.*

Anthrax obscura Macquart, *Dipt. exot.* suppl. 1, 1846, 112; preoccupied by Weber 1801. *Villa obscura* Roberts, Proc. Linn. Soc. N.S.W., liii, 1928, 114.

Weber previously used the name in *Observationes entomologicae*, 1801, p. 115.

Villa prosimplex, *new name.*

Anthrax simplex Macquart, *Dipt. exot.*, suppl. 2, 1847, 52; preoccupied by Wiedemann 1819. *Villa simplex* Roberts, Proc. Linn. Soc. N.S.W., liii, 1928, 128.

Wiedemann used the name in *Zool. Mag.*, iii, 1819, p. 11.

Villa proconcisa, *new name.*

Anthrax concisa Macquart, *Dipt. exot.*, suppl. 4, 1850, 111; preoccupied by Macquart 1840. *Villa concisa* Roberts, Proc. Linn. Soc. N.S.W., liii, 1928, 141.

Macquart used the name twice, the first time being in his same work, Vol. 2, 1840, p. 65.

Sisyromyia aurata Walker.

Bombylius auratus Walker, *List Dipt. Brit. Mus.*, ii, 1849, 289.

Sherborn records *Bombylius auratus* Turton, *Linn. Syst. Nat.*, iii, 1802, p. 638, which might make Walker's name a homonym by this association. Actually Turton was alluding to *Volucella aurata* Fab., but he made no reference to this author when changing the generic conception, and his whole work is apparently not valid for consideration in regard to homonyms, being hardly more than a catalogue in value, omitting references and compiling short descriptions taken from various early works, frequently placing the names in different generic combination.

Roberts may have erred in leaving *Bombylius lobalis* Thomson as a synonym of this species, and with advantage it might be removed to a synonym of *B. albovittata* Macquart, as the description agrees there.

Sisyromyia eulabiata Bigot.

Bombylius brevirostris Macquart, *Dipt. exot.*, suppl. 4, 1850, 119; preoccupied by Olivier 1789. *Systoechus eulabiatus* Bigot, *Ann. Soc. ent. Fr.*, (7) lxi, 1892, 336.

The name given by Macquart was used earlier by Olivier in *Encycl. Method.*, iv, 1789, p. 326; by Meigen in *Syst. Beschr. zweifl. Ins.*, vi, 1830, p. 326; and by Macquart in *Dipt. exot.*, ii, 1840, p. 103.

Genus Bombylius L.

Many specific names are proposed under this genus, some subsequently removed to other genera but fall to synonymy such as *Bombylius punctipennis* Thomson 1869, preoccupied by Loew 1855. Those still retained within the genus are *Bombylius scutellaris* Thomson 1869, preoccupied by Wiedemann 1828, a synonym of *B. decoratus* Walk., and *B. nanus* Walker 1849, preoccupied by Meigen 1838, and which is of unknown identity. The two following species need re-naming.

Bombylius probellus, *new name.*

Bombylius bellus Roberts, Proc. Linn. Soc. N.S.W., liii, 1928, 439; preoccupied by Philippi 1865.

The name was used by Philippi in *Verh. zool.-bot. Ges. Wien.*, xv, 1865, 649.

Bombylius alienus, *new name.*

Bombylius pulchellus Roberts, Proc. Linn. Soc. N.S.W., liii, 1928, 441; preoccupied by Loew 1863.

The name was first used by Eversman in *Bull. Soc. Imp. Nat. Mus.*, vii, 1835, p. 423, standing as a *nomen nudum*. Also Loew used it in *Ent. Z. Berl.*, vii, 1863, p. 300, and again v.d. Wulp in *Tidschr. v. Ent.*, xxiii, 1880, 164.

Family Empididae.

Empis thomsoni, *new name.*

Empis tenuirostris Thomson, *Eugenies Resa*, Dipt., 1869, 473; preoccupied by Fallen 1816; Hardy, Proc. Linn. Soc. N.S.W., lix, 1934, 177.

The name was used by Fallen in *Dipt. Svec. Empididae*, 1816, p. 29.